ABOUT CONSORTIUM

The consortium “RUBIN-AUTOMATION” consolidates professional experience of key specialists in the field of automated control systems.

- INVESTIGATION
- DESIGNING AND INSTALLATION
- MONITORING UTILITIES
- UTILITIES
- SCIENCE AND EXPERTISE
- TRAINING AND PROFESSIONAL DEVELOPMENT

SCIENTIFIC-INDUSTRIAL ENTERPRISE «RUBIN»

a pool of scientists, experts, designers, practical engineers, highly skilled workers as well as specialists in various fields of expertise connected with issues of providing effective control over automation objects.

KRUG SCIENTIFIC PRODUCTION COMPANY

An engineering centre engaged in a wide range of projects and services from making draft proposals, designing and coordinating the project appraisal to actualizing and maintaining automated systems.

RUBIN... AUTOMATION

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CONSORTIUM RUBIN-AUTOMATION

Professional solutions – basis for development!

SMART AUTOMATED CONTROL SYSTEM OF CITY STREET LIGHTING (ACS SL)

Automation objects

The street lighting system consists of switching points (SP). Lighting control commands come to SPs from the central control station. SPs maybe located in transformer sub-stations or directly on lighting poles.

Goals of introduction

- Organizing centralized automatic and operational-dispatching control of street lighting (SL), buildings illumination and other city lighting.

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Smart automated control system of city street lighting

AUTOMATION OF CITY OBJECTS

System functions

- *Supplying the personnel of the central control station with exhaustive on-line and archival information on the system operation, on the status of SL equipment.*
- *Measuring and control over electric power consumption by each SP control cabinet.*
- *Detecting, warning about and logging emergencies, process equipment failures, unauthorized intrusion into SP control cabinets, excessive current consumption, etc.*
- *Sending information on contingencies to the dispatcher's AWS and text warning of the maintenance personnel.*
- *Four operating modes of ACS SL: automatic according to the schedule, automatic according to sunrise/sunset time, manual remote from the dispatcher's AWS, manual hardware – using switches located in SP control cabinets.*
- *Performing calculation tasks (calculating running time, etc.).*
- *Energy accounting and monitoring quality of electric power.*
- *Automatic diagnostic troublshooting of communication channels.*
- *Regulated switching on/off, checking and replacing system elements.*
- *Dispatcher's manual input changing settings, control and information processing constants.*
- *Protection against unauthorized access to the system.*

System features

- *Supplying the personnel of the central control station with exhaustive on-line and archival information on the system operation.*
- *Reducing costs due to logging and forecasting emergencies in real time.*
- *Reducing repair costs of lighting facilities due to electric power quality constant monitoring.*
- *High quality of city lighting due to uniform distribution of energy resources.*
- *Improving the system reliability and quality of street lighting due to elimination of the human factor.*
- *SP control cabinets are delivered as functionally and structurally complete products with terminal blocks for connecting external circuits.*
- *To avoid a possibility of unauthorized access, each cabinet is locked and completed with an access control sensor.*
- *The SP cabinet ensures at least IP54 level sealing protection (location inside buildings) or IP66 (street version) for transformer substations according to GOST 14254-9.*
- *To send data, one may use wire (optical fibre) and GSM communication channels, radio channels. The central control station can send data to a higher level via the Ethernet local-area network.*

Components

- *Sets of power facilities, three-phase electricity supply meters.*
- *SP control cabinets with programmable logic controllers.*
- *DevLink-C1000 and input/output modules.*
- *Data base servers and the dispatcher's AWS on the basis of SCADA KRUG-2000®.*
- *To send data, one may use wire (optical fibre) and GSM communication channels, radio channels.*

Implemented projects

- *Municipal Enterprise "Gorelektroset", Zheleznogorsk, Krasnoyarskii Krai.*
- *"Aqtau international commercial seaport", Kazakhstan.*
- *"Zhaiyk Zharygy", Uralsk, Kazakhstan.*